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09/989,937	11/20/2001	William C. Black	X-933 US	1537
24309	7590	11/14/2006	EXAMINER	
XILINX, INC ATTN: LEGAL DEPARTMENT 2100 LOGIC DR SAN JOSE, CA 95124			WARE, CICELY Q	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DD

# Office Action Summary

Application No.

09/989,937

Applicant(s)

BLACK, WILLIAM C.

Examiner

Cicely Ware

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-14, 16-22, 24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14, 16-22, 24 and 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 29 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see REMARKS, filed 8/29/2006, with respect to the rejection(s) of claim(s) 1-5, 7-14, 16,17,19-25 under 35 USC 103(a) and claim 18 under 35 USC 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Nakayama et a. (US Patent 4,686,686).

On pg. 10 of applicant's REMARKS applicant asserts that "assertion of inherency does not make clear that the use of a printed circuit board to interconnect amplifier to device is necessarily present in Adam".

Examiner disagrees. Examiner asserts that any circuit can be built on a circuit board. Claiming a circuit board does not constitute patentability. Adam shows the amplifier and other elements connected in the way claimed by applicant. Through fundamental electrical engineering circuitry knowledge it is well known in the art that any hardware can be built on a circuit board. Adam's abstract references a MOS circuit, which inherently means that it can be modeled on a circuit board. Therefore Adam can be used to reject claim 18.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Anderson (US Patent 5,493,246).

(1) With regard to claim 1, Anderson discloses in (Fig. 1) an amplifier (14) having an output impedance, wherein the amplifier sources a transmission line; and a feed-forward circuit (12, 22) in parallel with said amplifier (14) (col. 1, lines 11-17, 20-27), wherein the feed-forward circuit compensates (28, 30) for transmission characteristics of the transmission line (col. 2, lines 10-19, 28-39); and wherein said feed-forward circuit further comprises wherein said feed-forward circuit further comprises a plurality of switched capacitors in parallel with each other, wherein each one (Fig. 2 (36, 38, 40, 42, 44, 46)) of the switched capacitors includes a capacitor in series with a switch and at least one of said plurality switch capacitors is selectable based on a desired capacitance value to be placed in parallel with said output impedance (col. 2, lines 10-19, 28-39).

(2) With regard to claim 10, see rejection of claim 1. Anderson further discloses in (Fig. 1) a data processing module having an output (22); an amplifier having an input coupled to the output of the data processor (22, 14, 24), and an output (Vout); and a feed-forward circuit having an input (Vin, 12, 16, 22) coupled to the output of the data processing module (22, Vout) and an output coupled to the output of the amplifier (14, Vout) (col. 1, lines 11-17, 20-27, col. 2, lines 10-19, 28-39).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 3, 7, 8, 9, 11, 12, 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US Patent 5,493,246) as applied to claims 1 and 10, in view of Nakayama et al. (US Patent 4,686,686).

With regard to claim 2, claim 2 inherits all the limitations of claim 1. However Anderson does not disclose wherein said feed-forward circuit further comprises a capacitor, wherein a capacitance value of said capacitor is determined at least in part by a data transition rate.

However Nakayama et al. discloses in (Fig. 2) wherein said feed-forward circuit further comprises a capacitor, wherein a capacitance value of said capacitor is determined at least in part by a data transition rate (abstract, col. 1, lines 9-38, col. 2, lines 35-42).

Therefore it would have been obvious to one of ordinary skill in the art to modify Anderson in view of Nakayama et al. to incorporate wherein said feed-forward circuit further comprises a capacitor, wherein a capacitance value of said capacitor is determined at least in part by a data transition rate in order to provide line equalization which can favorably and readily cope with subscriber lines having difference data rates (Nakayama et al., col. 1, lines 47-49).

(3) With regard to claim 3, claim 3 inherits all the limitations of claim 1.

Nakayama et al. further discloses in (Fig. 2) wherein said feed-forward circuit, further comprises a capacitor, wherein a capacitance value of said capacitor is determined based at least in part on a characteristic of a transmission medium to which said output interface is electrically coupled (abstract, col. 1, lines 9-44, 54-68, col. 2, lines 1-4, 35-42).

(4) With regard to claim 7, claim 7 inherits all the limitations of claim 1. See rejection of claim 3.

(5) With regard to claim 8, claim 8 inherits all the limitations of claim 7. Anderson further discloses wherein the feed-forward control module further comprises a plurality of user selectable switches (col. 2, lines 30-39).

(6) With regard to claim 9, claim 9 inherits all the limitations of claim 7. Anderson further discloses wherein the property is one of a capacitance value and a resistance value (col. 2, lines 30-39).

(7) With regard to claim 11, see rejection of claims 10 and 2.

(8) With regard to claim 12, see rejection of claims 10 and 3.

(9) With regard to claim 16, claim 16 inherits all the limitations of claim 10. See rejection of claim 3.

(10) With regard to claim 17, claim 17 inherits all the limitations of claim 16. See rejection of claim 8.

6. Claims 4, 5, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US Patent 5,493,246) as applied to claims 1 and 10, in view of O'Neil et al. (US Patent 3,886,470).

(1) With regard to claim 4, claim 4 inherits all the limitations of claim 1. However Anderson does not disclose wherein said feed-forward circuit further comprises an amplifier in series with a capacitor.

However O'Neil et al. discloses in (Fig. 2) wherein said feed-forward circuit (11-22) further comprises an amplifier (12) in series with a capacitor (56).

Therefore it would have been obvious to one of ordinary skill in the art to modify Anderson in view of O'Neil et al. to incorporate wherein said feed-forward circuit further comprises an amplifier in series with a capacitor to provide a small correction to the phase characteristic of the delay path whose dominant effect occurs at low frequencies (O'Neil et al., col. 5, lines 46-48).

(2) With regard to claim 5, claim 5 inherits all the limitations of claim 1. O'Neil et al. further discloses in (Fig. 2) wherein said feed-forward circuit (11-22) further comprises a resistive element (52) in series with a capacitor (56).

(3) With regard to claim 13, see rejection of claims 10 and 4.

(4) With regard to claim 14, see rejection of claims 10 and 5.

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7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US Patent 5,493,246) as applied to claim 1, in further view of Adam (US Patent 3,939,437).

With regard to claim 18, see rejection of claim 1. However Anderson does not disclose a printed circuit board; a first device having an input ; a second device having an output; an amplifier having an input and an output, wherein the input of the amplifier is coupled to an output of the second device and the output of the amplifier is coupled to the input of the first device via the printed circuit board.

However Adam discloses in (Figs. 1, 2, 3 and 4) a printed circuit board (abstract); a first device having an input (14); a second device having an output (16); an amplifier (18) having an input and an output, wherein the input of the amplifier is coupled to an output of the second device (16) and the output of the amplifier is coupled to the input of the first device (14) via the printed circuit board (col.1, lines 63-68 – col. 2, lines 1-6, col. 4, lines 31-34).

Therefore it would have been obvious to one of ordinary skill in the art to modify Anderson in view of Adam to incorporate a printed circuit board; a first device having an input; a second device having an output; an amplifier having an input and an output, wherein the input of the amplifier is coupled to an output of the second device and the output of the amplifier is coupled to the input of the first device via the printed circuit board in order to compensate for the frequency-dependent attenuation of the delay line (Adam, abstract).



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8. Claims 19, 20, 24, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US Patent 5,493,246) in view of Adam (US Patent 3,939,437) as applied to claim 18, in view of Nakayama et al. (US Patent 4,686,686).

(1) With regard to claim 19, claim 19 inherits all the limitations of claim 18.

However Anderson in combination with Adam do not disclose wherein said feed-forward circuit further comprises a capacitor, wherein a capacitance value of said capacitor is determined at least in part by a data transition rate.

However Nakayama et al. discloses in (Fig. 2) wherein said feed-forward circuit further comprises a capacitor, wherein a capacitance value of said capacitor is determined at least in part by a data transition rate (abstract, col. 1, lines 9-38, col. 2, lines 35-42).

Therefore it would have been obvious to one of ordinary skill in the art to modify Anderson in combination with Adam in view of Nakayama et al. to incorporate wherein said feed-forward circuit further comprises a capacitor, wherein a capacitance value of said capacitor is determined at least in part by a data transition rate in order to provide line equalization which can favorably and readily cope with subscriber lines having difference data rates (Nakayama et al., col. 1, lines 47-49).

(2) With regard to claim 20, claim 20 inherits all the limitations of claim 18.

Nakayama et al. further discloses in (Fig. 2) wherein said feed-forward circuit, further comprises a capacitor, wherein a capacitance value of said capacitor is determined based at least in part on a characteristic of a transmission medium to which said output

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interface is electrically coupled (abstract, col. 1, lines 9-44, 54-68, col. 2, lines 1-4, 35-42).

(3) With regard to claim 24, claim 24 inherits all the limitations of claim 18. See rejection of claim 20.

(4) With regard to claim 25, claim 25 inherits all the limitations of claim 24. Anderson further discloses wherein the feed-forward control module further comprises a plurality of user selectable switches (col. 2, lines 30-39).

9. Claims 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US Patent 5,493,246) in view of Adam (US Patent 3,939,437) as applied to claim 18, in view of O'Neil et al. (US Patent 3,886,470).

(1) With regard to claim 21, claim 21 inherits all the limitations of claim 18. Anderson in combination with Adam disclose all the limitations of claim 18.

However Anderson in combination with Adam do not disclose wherein said feed-forward circuit further comprises an amplifier in series with a capacitor

However O'Neil et al. discloses in (Fig. 2) wherein said feed-forward circuit (11-22) further comprises an amplifier (12) in series with a capacitor (56).

Therefore it would have been obvious to one of ordinary skill in the art to modify the inventions of Anderson in combination with Adam to incorporate wherein said feed-forward circuit further comprises an amplifier in series with a capacitor to provide a small correction to the phase characteristic of the delay path whose dominant effect occurs at low frequencies (O'Neil et al., col. 5, lines 46-48).

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(2) With regard to claim 22, claim 22 inherits all the limitations of claim 18. O'Neil et al. further discloses in (Fig. 2) wherein said feed-forward circuit (11-22) further comprises a resistive element (52) in series with a capacitor (56).

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 571-272-3021. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

*Cicely Ware*

cqw  
November 2, 2006

  
MOHAMMED GHAYOUR  
SUPERVISORY PATENT EXAMINER